REMARKS

Claims 1-7, 9-17, 20, 27-37, 40-44, 47, 58-60, 62-68, 72, 73, 76 and 78-85 are pending. Claims 8, 18, 19, 21-26, 38, 39, 45, 46, 48-57, 61, 69-71, 74 and 75 are cancelled. Claims 1, 10, 20, 27, 29, 33, 41, 43, 47, 60, 72, 73, 76 and 78-80 are amended. No new matter is added. The Examiner rejected claim 10 under 35 U.S.C. § 112, second paragraph, as being indefinite. The Examiner rejected all of the pending claims under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,928,145 ("Ocali") in view of U.S. Patent No. 6,701,176 ("Halperin"). The applicant respectfully traverses the rejections and requests reconsideration in view of the amendments and remarks herein.

Information Disclosure Statement

Applicant submitted an Information Disclosure Statement on May 25, 2005. Applicant respectfully requests that the Examiner consider the references cited therein and return an initialed Form PTO-1449.

Interview Summary

The applicant thanks the Examiner for conducting a telephonic interview with the applicant's representative, Brenda Leeds Binder, on December 3, 2007. Claim 1 was discussed in view of the Ocali and Halperin references. No agreement was reached.

The § 112 Rejection

Claim 10 has been amended to clarify that both the first and second internal antennae are being referred to in the limitation recited. The applicant respectfully submits the amendment overcomes the indefiniteness rejection.

The § 103 Rejections

Claims 1-7, 9-17, 20, 27-37, 40-44, 47, 58-60, 62-68, 72, 73, 76 and 78-85 are rejected as being unpatentable over Ocali in view of Halperin.

Claims 1-7, 9-17 and 30-32

Claim 1 recites a method of recanalizing a substantially totally occluded vessel in a subject. The method includes obtaining an image from within the vessel of the substantially totally occluded vessel using magnetic resonance, guiding a recanalization device using the

obtained image, and recanalizing the occluded vessel with the recanalization device. Obtaining the image includes (i) receiving a magnetic resonance signal with an external receiver located external to the body of the subject; (ii) generating a map image of the occluded vessel using the signal received by the external receiver; (iii) receiving a magnetic resonance signal with a first internal antenna and a second internal antenna, and (iv) locally enhancing the map image of the occluded vessel using the signal received by the first and second internal antennae. The first and second internal antennae are positioned within the occluded vessel and near an occlusion.

Claim 1 has been amended to further recite the structure of the first and second internal antennae. Both internal antennae are open wire length antennae. The open wire length antennae each include first and second elongated electrical conductors being electrically insulated from each other and having spaced-apart distal ends. The first conductor of the first internal attenna is adapted to function as an ablation wire in addition to its role in receiving the RF signals. The first conductor has a substantially uninsulated distal tip and an electrical ablation current is applied to the distal tip to vaporize the substance forming the occlusion.

The applicant respectfully submits that neither Ocali nor Halperin disclose a method of recanalizing a vessel using a locally enhanced map image obtained using two internal antennae, where both internal antennae are open wire length and one of the antennae doubles as an ablation device. In particular, neither reference discloses using two open wire length internal antennae. Thus, *even in combination*, the invention is not taught by the references.

Halperin discloses that a receiver coil for MR imaging can also serve as an RF ablation transmitter (Col. 7, lines 29-30). However, a switching device must be used to switch between imaging and ablation modes (Col. 7, lines 31-33). Accordingly, when in ablation mode, the receiver coil is not providing signals for imaging, and therefore no real-time image is provided during the actual ablation procedure. However, the method recited in claim 1 uses two internal antennae. Therefore, advantageously, when the first internal antenna is in ablation mode, a local image of the vessel can still be obtained from the second internal antenna. Ocali discloses a device where a loopless antenna is employed in combination with a catheter coil (Fig. 15, Col.17, lines 46-48). However, Ocali does not disclose locally enhancing a map image obtained

externally using an image obtained internally, nor does Ocali disclose that one of the two antennae can serve as an ablation device.

Further, to modify Ocali based on Halperin such that images from two internal antennae, where one doubles as an ablation device, are used to locally enhance an externally obtained map image would be an impermissible use of hindsight in an attempt to reconstruct the Applicant's invention. It is improper to use the Applicant's disclosure as the motivation to combine the particular teachings in the cited references: "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure". See, M.P.E.P. 2143, citing *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). Further, it is respectfully submitted that merely because prior art can be modified is not sufficient to render a claim *prima facie* obvious. See M.P.E.P. § 2143.01, which sets forth the applicable standard:

> The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. (*In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990)).

Accordingly, the applicant respectfully submits that neither alone nor in combination do the Ocali and Halperin references render the method recited in claim 1 obviousness, and the applicant requests that claim 1 and its dependent claims 2-7, 9-17 and 30-32 be allowed.

Claims 33-37, 40-44, 47, 58 and 59

Claim 33 recites a method of recanalizing a substantially totally occluded vessel. The claim recites receiving magnetic resonance signals from two internal antennae, where both are open wire length and one can also function as an ablation device. The applicant respectfully submits that for at least the same reasons as stated above in reference to claim 1, claim 33 is in condition for allowance. Claims 34-37, 40-44, 47, 58 and 59 depend from claim 33 and are therefore allowable for at least the same reasons.

Claims 60, 62-68, 72, 73, 76, and 78-85

Claim 60 recites an apparatus for imaging an occluded vessel in a subject. The apparatus includes a magnetic field generator and magnetic field gradient generator, an RF signal generator, an external RF receiver, a controller, a visual display and first and second internal

antennae. Both internal antennae are open wire length antennae including first and second elongated electrical conductors that are electrically insulated from each other and have spaced-apart distal ends. The first conductor of the second internal antenna is adapted to function as an ablation wire in addition to its role in receiving RF signals.

The applicant respectfully submits that for at least the reasons stated above in reference to claim 1, claim 60 is in condition for allowance. Claims 62-68, 72, 73, 76 and 78-85 depend from claim 60 and are therefore also in condition for allowance.

The Petition for Extension of Time fee in the amount of $1050 is being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply all charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 10527-637001.

Respectfully submitted,

Date:December 13, 2007_____

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